

## THE IMPACT OF ENAMEL MATRIX DERIVATIVE APPLICATION ON ACUTE SYSTEMIC INFLAMMATION AFTER PERIODONTAL SURGERY: A RANDOMIZED CONTROLLED CLINICAL TRIAL

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The aim of this study was to compare surgical treatment of periodontal intrabony defects with and without the adjunct of enamel matrix derivative (EMD) in terms of acute-phase responses in healthy patients.

Thirty-eight periodontitis-affected subjects were randomized to surgical treatment or surgical treatment + EMD. Periodontal parameters were recorded at baseline and 6-months. Serum samples were collected at baseline, 1, 7 and 180 days after treatment.

Both treatment modalities resulted in an acute inflammatory response at 24-hr that regressed to its baseline values at day 7. The intergroup comparison showed statistically significant difference with regards to CRP values ( $P=0.004$ ). The increase of CRP and fibrinogen was higher for control group at day 1, when compared to its baseline values ( $p<0.05$  vs. baseline). Better periodontal healing was observed for test group, where the clinical attachment level gain was  $4.26 \pm 2.182$  mm compared to  $3.26 \pm 2.207$  mm for control group.

The adjunction of EMD during surgical treatment was associated with lower increase of CRP and fibrinogen in test group after 24-hr. These findings suggest a possible systemic anti-inflammatory effect of EMD which can be of special interest when treating patients with systemic comorbidities. NCT03590093.